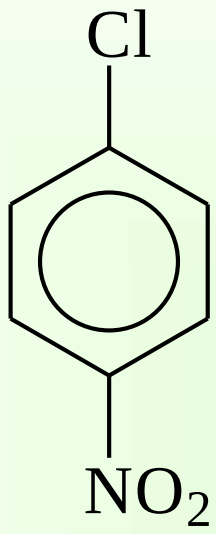
Evidence of the Carcinogenicity of 1-Chloro-4-nitrobenzene



Molecular Weight: 157.56 CAS Registry No.: 100-00-5

Carcinogenicity Studies of 1-Chloro-4-nitrobenzene

Tumor incidence in HaM/ICR mice administered 1-chloro-4-nitrobenzene in feed for 18 months (Weisburger *et al*., 1978).

Tumor Type	**Dose (ppm in feed)**			
	0 (simultaneous)	0 (pooled)	3,000	6,000
Males				
Hepatocellular carcinomas	1/14 *(7%)*	7/99 *(7%)*	4/14[a] *(29%)*	0/14 *(0%)*
Vascular tumors	0/14 *(0%)*	5/99 *(5%)*	2/14 *(14%)*	4/14[a] *(29%)*
Females				
Vascular tumors	0/15 *(0%)*	9/102 *(9%)*	3/20 *(15%)*	7/18 [a] *(39%)*

[a] Different from pooled controls ($p<0.05$)

Other Relevant Data

- Produced mutations in some, but not the majority, of tests in *Salmonella*
- Produced DNA strand breaks *in vitro* and *in vivo*
- Produced sister chromatid exchanges and chromosomal aberrations *in vitro*
- Metabolized to the carcinogen, 4-chloroaniline

Summary: 1-Chloro-4-nitrobenzene

- Vascular tumors in male and female mice
- Hepatocellular tumors at the lower of two doses in male mice
- Genotoxic effects in mammalian cells *in vitro* and *in vivo*
- Metabolism to a known carcinogen